

Application No.: 10/697768

Case No.: 58585US002

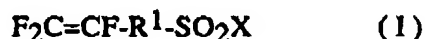
Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Original) A method of aqueous emulsion polymerization of two or more fluoromonomers comprising the steps of:

- 1) forming a pre-emulsion by mixing, a fluoromonomer according to formula I:



wherein R^1 is a branched or unbranched perfluoroalkyl, perfluoroalkoxy or perfluoroether group comprising 1-15 carbon atoms and 0-4 oxygen atoms and wherein X is F, Cl or Br, together with 0.001-0.9 molar equivalents of a base, in the absence of added emulsifier; and

- 2) reacting said pre-emulsion with one or more comonomers in the absence of added emulsifier, said comonomers being perfluorinated, so as to form a fluoropolymer latex comprising a fluoropolymer wherein more than 1 mol% of monomer units are derived from the fluoromonomer according to formula I.

2. (Original) The method according to claim 1 wherein said fluoropolymer dispersion comprises a fluoropolymer wherein more than 5 mol% of monomer units are derived from the fluoromonomer according to formula I.

3. (Original) The method according to claim 1 wherein said fluoropolymer latex comprises a fluoropolymer wherein more than 10 mol% of monomer units are derived from the fluoromonomer according to formula I.

4. (Original) The method according to claim 1 wherein said base is a hydroxide.

Application No.: 10/697768

Case No.: 58585US002

5. (Original) The method according to claim 1 wherein R^1 is $-O-R^2-$ wherein R^2 is a branched or unbranched perfluoroalkyl or perfluoroether group comprising 1-15 carbon atoms and 0-4 oxygen atoms, and wherein X is F.
6. (Original) The method according to claim 1 wherein R^1 is $-O-R^3-$ wherein R^3 is a perfluoroalkyl group comprising 1-15 carbon atoms, and wherein X is F.
7. (Original) The method according to claim 1 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.
8. (Original) The method according to claim 2 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.
9. (Original) The method according to claim 3 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.
10. (Original) The method according to claim 1 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-CF_2-$ and X is F.
11. (Original) The method according to claim 2 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-CF_2-$ and X is F.
12. (Original) The method according to claim 3 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-CF_2-$ and X is F.
13. (Currently Amended) The method according to claim 1 wherein said pre-emulsion additionally comprises one or more fluorinated vinyl ether comonomer.
14. (Original) The method according to claim 13 wherein said fluorinated vinyl ether comonomer is a monomer according to formula (III):



Application No.: 10/697768

Case No.: 58585US002

where R_f and R'_f are independently selected from the group consisting of linear and branched perfluoroalkylene groups of 2 – 6 carbon atoms, where m is 0-10, where n is 0-10, where the sum of n and m is at least 1, and where R''_f is a perfluoroalkyl group of 1 – 6 carbon atoms.

15. (Original) The method according to claim 1 wherein said comonomers include non-perfluorinated comonomers.

16. (Original) A fluoropolymer latex made according to the method of claim 1, said fluoropolymer latex being free of added emulsifier.

17. (Original) The fluoropolymer latex according to claim 16 comprising a fluoropolymer wherein more than 5 mol% of monomer units are derived from the fluoromonomer according to formula I.

18. (Original) The fluoropolymer latex according to claim 16 comprising a fluoropolymer wherein more than 10 mol% of monomer units are derived from the fluoromonomer according to formula I.

19. (Original) The fluoropolymer latex according to claim 16 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.

20. (Original) The fluoropolymer latex according to claim 17 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.

21. (Original) The fluoropolymer latex according to claim 18 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.

22. (Original) The fluoropolymer latex according to claim 16 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-CF_2-$ and X is F.

Application No.: 10/697768

Case No.: 58585US002

23. (Original) The fluoropolymer latex according to claim 17 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-CF_2-$ and X is F.
24. (Original) The fluoropolymer latex according to claim 18 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-CF_2-$ and X is F.
25. (Original) A fluoropolymer derived from a fluoropolymer latex made according to the method of claim 1, said fluoropolymer being free of added emulsifier.
26. (Original) The fluoropolymer according to claim 25, wherein said fluoropolymer latex comprises a fluoropolymer wherein more than 5 mol% of monomer units are derived from the fluoromonomer according to formula I.
27. (Original) The fluoropolymer according to claim 25, wherein said fluoropolymer latex comprises a fluoropolymer wherein more than 10 mol% of monomer units are derived from the fluoromonomer according to formula I.
28. (Original) The fluoropolymer according to claim 25 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.
29. (Original) The fluoropolymer according to claim 26 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.
30. (Original) The fluoropolymer according to claim 27 wherein R^1 is $-O-CF_2CF_2CF_2CF_2-$ and X is F.

Application No.: 10/697768

Case No.: 58585US002

31. (Original) The fluoropolymer according to claim 25 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-$ CF_2- and X is F.
32. (Original) The fluoropolymer according to claim 26 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-$ CF_2- and X is F.
33. (Original) The fluoropolymer according to claim 27 wherein R^1 is $-O-CF_2-CF(CF_3)-O-CF_2-$ CF_2- and X is F.
34. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 25 which has been hydrolyzed.
35. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 26 which has been hydrolyzed.
36. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 27 which has been hydrolyzed.
37. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 28 which has been hydrolyzed.
38. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 29 which has been hydrolyzed.
39. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 30 which has been hydrolyzed.
40. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 31 which has been hydrolyzed.

Application No.: 10/697768Case No.: 58585US002

41. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 32 which has been hydrolyzed.

42. (Original) A polymer electrolyte membrane comprising the fluoropolymer of claim 33 which has been hydrolyzed.